LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR 115415 - Diesel Engine

Sample No: LH0285062

Oil Type: APRIL SUPERFLO SUPERPRO RXL SYN 5W40

SAMPLEINFORMATION							
Sample Number	LH0285062	LH0247305	LH0239340	LH0178553			
Sample Date	05 Feb 2024	06 Mar 2023	20 Sep 2022	10 Sep 2021			
Machine Hours	3117	2056	1696	495			
Oil Hours	0	0	0	0			
Oil Changed	Changed	N/A	Changed	Changed			
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL			

EARTHLINE FOUNDATIONS AND SHORING LTD 160 ADMIRAL BLVD MISSISSAUGA, ON CA L5T 2N6 Contact: Service Manager

T: F:

OIL CONDITION								
Visc @ 100°C c	:St	<u>11.5</u>	O 11.6	O 11.6	11.5			
Oxidation (PA) %	/0	99	77	88	180			

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Light fuel dilution occurring. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is acceptable for the time in service.

CONTAMINATION						
Water	%	NEG	NEG	NEG	NEG	
Soot %	%	0	O 0	O 0	O 0	
Nitration (PA)	%	93	77	84	89	
Sulfation (PA)	%	67	61	63	103	
Glycol	%	○ 0.0	NEG	NEG	0.0	
Fuel	%	2.1	<1.0	<1.0	O 1.4	
Silicon	ppm	6	6	6	9	
Sodium	ppm	5	4	4	3	
Potassium	ppm	21	1	O 2	14	

WEA	AR META	LS			
Iron	ppm	10	O 5	6	O 12
Copper	ppm	4	O 2	0 8	O 74
Lead	ppm	2	O 0	<1	4
Tin	ppm	() <1	O <1	 <1	1
Aluminum	ppm	5	O 1	O 1	O 2
Chromium	ppm	○ <1	O <1	O <1	O <1
Molybdenum	ppm	62	58	57	O 41
Nickel	ppm	○ <1	O <1	O 0	O <1
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	O 0	0	<1
Manganese	ppm	0		<1	1
Vanadium	ppm	0	0	0	0

Vanadium	ppm	0	0	0	0	
0						
ADDITIVES						
		_				
Calcium	ppm	836	O 875	838	1389	
Magnesium	ppm	1115	O 1110	O 1134	O 829	
Zinc	ppm	1160	1180	1195	○ 829	
Phosphorus	ppm	956	1090	O 1113	741	
Barium	ppm	1	O <1	1	25	
Boron	ppm	15	○ 37	27	6 9	

Depot: EARMIS
Unique No: 5723119
Signed: Wes Davis
Report Date: 08 Feb 2024

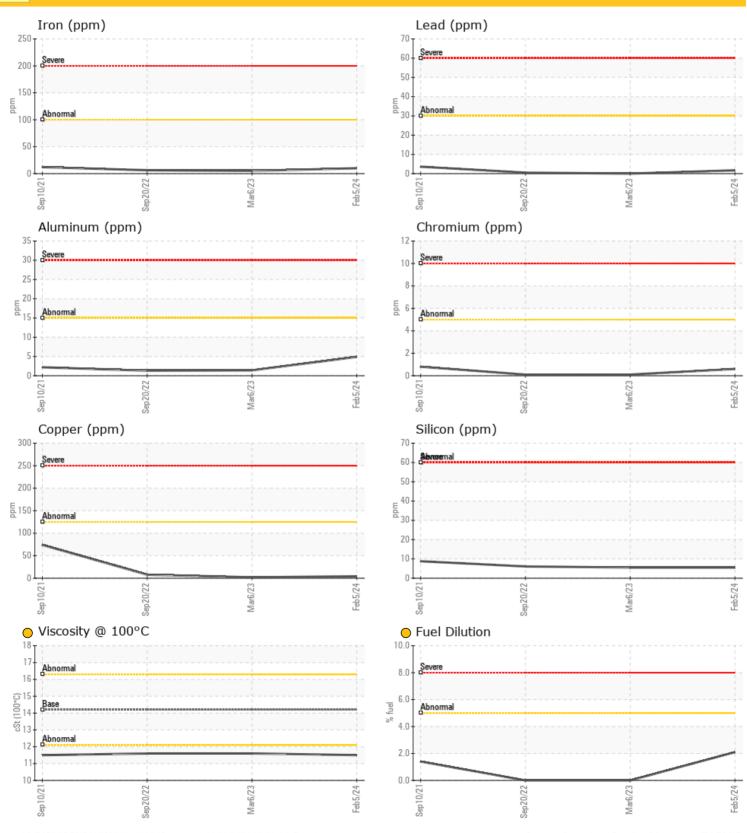
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GRAPHS



Report Id: EARMIS [WCAMIS] 02614024 (Generated: 02/09/2024 09:33:45) Rev: 1

Contact/Location: Service Manager - EARMIS